General

Guideline Title

Pharmalgen for the treatment of bee and wasp venom allergy.

Bibliographic Source(s)

National Institute for Health and Clinical Excellence (NICE). Pharmalgen for the treatment of bee and wasp venom allergy. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Feb. 34 p. (Technology appraisal guidance; no. 246).

Guideline Status

This is the current release of the guideline.

Recommendations

Major Recommendations

Pharmalgen is recommended as an option for the treatment of immunoglobulin E (IgE)-mediated bee and wasp venom allergy in people who have had:

- A severe systemic reaction to bee or wasp venom, or
- A moderate systemic reaction to bee or wasp venom and who have one or more of the following: a raised baseline serum tryptase, a high risk of future stings or anxiety about future stings.

Treatment with Pharmalgen should be initiated and monitored in a specialist centre experienced in venom immunotherapy.

Clinical Algorithm(s)

None provided

Scope

Disease/Condition(s)

Bee and wasp venom allergy

Guideline Category

Assessment of Therapeutic Effectiveness

Prevention

Treatment

Clinical Specialty

Allergy and Immunology

Dermatology

Emergency Medicine

Family Practice

Internal Medicine

Preventive Medicine

Intended Users

Advanced Practice Nurses

Emergency Medical Technicians/Paramedics

Nurses

Physician Assistants

Physicians

Guideline Objective(s)

To assess the clinical and cost-effectiveness of Pharmalgen® in providing immunotherapy to individuals with a history of type 1 (immunoglobulin E [IgE] mediated) systemic allergic reaction to bee and wasp venom

Target Population

People in England and Wales who have had:

- A severe systemic reaction to bee or wasp venom, or
- A moderate systemic reaction to bee or wasp venom and who have one or more of the following: a raised baseline serum tryptase, a high risk of future stings or anxiety about future stings

Interventions and Practices Considered

1. Pharmalgen treatment (desensitisation) for immunoglobulin E-mediated wasp or bee sting allergy
2. Specialist centre treatment and monitoring

Major Outcomes Considered

- Clinical effectiveness

- Incidence of anxiety related to the possibility of future allergic reactions
- Incidence and severity of systemic allergic reaction to field sting (FS) or sting challenge (SC)
- Number of people re-stung
- Adverse reactions to venom immunotherapy (VIT)
- Local reaction to VIT, FS and SC
- Health-related quality of life
- Mortality

- Cost-effectiveness

Methodology

Methods Used to Collect/Select the Evidence

Hand-searches of Published Literature (Primary Sources)

Searches of Electronic Databases

Description of Methods Used to Collect/Select the Evidence

Note from the National Guideline Clearinghouse (NGC): The National Institute for Health and Clinical Excellence (NICE) commissioned an independent academic centre to perform a systematic literature review on the technology considered in this appraisal and prepare an assessment report. The Assessment Group (AG) report for this technology appraisal was prepared by Liverpool Reviews and Implementation Group (LRiG), University of Liverpool (see the "Availability of Companion Documents" field).

Clinical Effectiveness

Search Strategy

A comprehensive search strategy using a combination of index terms (e.g., Pharmalgen) and free text words (e.g., allerg$) was developed and used to interrogate the following electronic databases:

- EMBASE (1980 to 2011 Week 04)
- Medline (1948 to February week 3 2011)
- The Cochrane Library (February 2011)

The results were entered into an Endnote X4 library and the references were de-duplicated. Full details of the search strategies and the number of citations returned for each search are presented in Appendix 1 of the assessment report (see the "Availability of Companion Documents" field).

Inclusion and Exclusion Criteria

The identified citations were assessed for inclusion through two stages and disagreements were resolved through discussion. In stage 1, two reviewers independently screened all titles and abstracts and identified the potentially relevant articles to be retrieved. In stage 2, full paper manuscripts of identified studies were assessed independently by two reviewers for inclusion using the criteria as outlined in the decision problem (see Table 3 of the assessment report [see the "Availability of Companion Documents" field]) and described below. Studies that did not meet the criteria were excluded from the review and their bibliographic details are listed alongside reasons for their exclusion in Appendix 2 of the assessment report. Bibliographic details of included studies are shown in Appendix 3 of the assessment report (see the "Availability of Companion Documents" field).

Study Design

Any comparative studies were included in the assessment of clinical effectiveness of venom immunotherapy using Pharmalgen products (PhVIT). Full economic evaluations were included in the assessment of cost-effectiveness. The AG also identified and assessed the quality of existing systematic reviews in order to cross check for the identification of additional studies.

Intervention

The use of Pharmalgen® within its licensed indication was assessed. Where non-PhVIT was administered and compared to non-VIT interventions, these studies were identified but excluded from the review.

Comparator(s)

All the studies describing the clinical effectiveness of PhVIT compared to any alternative treatment options available in the National Health Service (NHS) without VIT, i.e., advice on avoidance of bee and wasp venom, high-dose antihistamines (HDA) or adrenaline auto-injector (AAIs) prescriptions and training, were considered for inclusion. These criteria were later widened to include any comparator to PhVIT, including non-PhVIT and different PhVIT dosing protocols and administration methods. These changes are reflected in the decision problem in Table 3 of the assessment report (see the "Availability of Companion Documents" field).

Population

To be included studies must have investigated people with a history of type 1 IgE-mediated systemic allergic reactions to bee venom and/or wasp venom determined by a history of a systemic reaction to a sting and a positive skin test and/or positive tests for the detection of serum IgE.

Outcomes

Data on any of the following outcomes were included in the assessment of clinical effectiveness: reaction to subsequent stings (assessed through accidental field sting [FS] or sting challenge [SC]), anxiety related to the possibility of future allergic reactions, reported adverse reactions (ARs) to treatment and quality of life (QoL).

Cost-effectiveness

Systematic Review of Existing Cost-Effectiveness Evidence

A systematic review of the economic literature was conducted to identify the existing evidence assessing the cost-effectiveness of Pharmalgen® for the treatment of bee and wasp venom allergy. The search strategy shown above for the clinical effectiveness was used to identify the relevant studies for inclusion in the review.

The results of the systematic review of cost-effectiveness literature revealed that there were no published economic evaluations relevant to the decision problem set by NICE. The manufacturer of PhVIT did not submit any clinical or cost-effectiveness evidence to NICE.

Number of Source Documents

Clinical Effectiveness

- Nine comparative studies of venom immunotherapy using Pharmalgen® products (PhVIT) (4 randomised controlled trials [RCTs] and 5 non-RCTs), reported in 11 publications, met the inclusion criteria for this review.
- Seventeen additional non-comparative studies of PhVIT were identified for inclusion.

Cost-Effectiveness

- There were no published economic evaluations relevant to the decision problem.
- The Assessment Group developed an economic model.

Methods Used to Assess the Quality and Strength of the Evidence

Expert Consensus

Rating Scheme for the Strength of the Evidence

Not applicable

Methods Used to Analyze the Evidence

Review of Published Meta-Analyses

Description of the Methods Used to Analyze the Evidence

Note from the National Guideline Clearinghouse (NGC): The National Institute for Health and Clinical Excellence (NICE) commissioned an independent academic centre to perform a systematic literature review on the technology considered in this appraisal and prepare an assessment report. The Assessment Group (AG) report for this technology appraisal was prepared by Liverpool Reviews and Implementation Group (LRiG), University of Liverpool (see the "Availability of Companion Documents" field).

Clinical Effectiveness

Data Abstraction Strategy

Data relating to both study design and quality were extracted by one reviewer into a Microsoft Access® database and were cross checked by a second reviewer. Where multiple publications of the same study were identified, data were extracted and reported as a single study.

Critical Appraisal Strategy

The quality of the included clinical-effectiveness studies was assessed by one reviewer and checked by a second reviewer according to criteria based on Centre for Reviews and Dissemination (CRD) Report 4. The checklist used to critically appraise the included studies is specific to randomised controlled trials (RCTs); for the non-RCT studies a modified version of this checklist was used. All relevant information was tabulated and summarised within the text of the report. Full details and results of the quality assessment strategy for clinical effectiveness studies are reported in Appendix 4 of the Assessment Report (see the "Availability of Companion Documents" field).

Methods of Data Synthesis

Results of the data extraction are summarised in structured tables and as a narrative description. A standard meta-analysis was planned if sufficient clinically and statistically homogeneous data were available from the included studies. The primary outcomes identified for the evidence synthesis were systemic reaction to field sting (FS) or sting challenge (SC) during treatment and/or adverse reactions to venom immunotherapy (VIT). Secondary outcomes included local reaction to VIT, local reaction to FS or SC, number of stings, deaths.

The Assessment Group planned to extract number of events for each outcome and total number of people in each treatment arm in order to calculate odds ratios (OR) and the correspondent 95% confidence intervals for each study. Studies with no events in both arms would be excluded from analysis. All analyses were planned based on the intention to treat (ITT) population where possible. Where appropriate, the levels of clinical and methodological heterogeneity would be investigated, and statistical heterogeneity would be assessed using Q- and I^2-statistics. Given the small number of trials available, a fixed-effects model was planned using the 'metan' command within STATA Version 9.2 where pooling was appropriate.

If the data allowed, a mixed treatment comparison (MTC) of relevant comparators to venom immunotherapy using Pharmalgen products (PhVIT) would be considered. This approach fulfils the objective of providing simultaneous comparison of all the relevant treatment alternatives, and can provide information about the associated decision uncertainty or sufficient information for economic evaluation. Hence, for the purposes of decision-making, a Bayesian MTC framework would be adopted to synthesise information on all technologies simultaneously using Markov Chain-Monte Carlo (MCMC) methods to estimate the posterior distributions for the outcomes of interest.

Indirect Analysis and Mixed Treatment Comparisons

The possibility of conducting a MTC was investigated when no head-to-head studies were identified that compared PhVIT and alternative treatment options available in the National Health Service (NHS) without VIT such as: advice on the avoidance of bee and wasp venom; high-dose antihistamines (HDA); adrenaline auto-injector (AAI) prescription and training. However, given the small number of trials and lack of head-to-head comparisons of PhVIT versus any intervention, pooling of all outcomes using standard meta-analysis was not possible. Any indirect analysis comparing PhVIT with any other intervention (including different doses and administration protocols of PhVIT) would be inappropriate owing to sparse data, heterogeneity in the study designs and in the characteristics of non-PhVIT and non-VIT interventions.

See Section 5 of the Assessment Report (see the "Availability of Companion Documents" field) for additional information.

Cost-effectiveness

The manufacturer of PhVIT did not submit any clinical or cost-effectiveness evidence to NICE. The AG developed a *de novo* economic model

designed specifically to compare the cost-effectiveness of PhVIT with currently available NHS interventions in people with a history of type 1 immunoglobulin E (IgE) mediated systemic allergic reactions to bee and wasp venom.

An overview of the AG's *de novo* economic model is summarised in Table 17 of the Assessment Report (see the "Availability of Companion Documents" field).

Economic Model

The economic model was constructed as a 1 year cohort decision tree that was extrapolated to have a horizon of multiple years with the only changes being a reduction in the size of the cohort at the end of each year due to sting related death or death from other causes. The average age of the cohort increased with the time horizon of the model with all cause mortality rates changing as the average age of the cohort increased. Development of a Markov model was not appropriate for disease modelling of the decision problem. To illustrate, with the exception of death, there was no transition into a state that results in changes to the key parameters; for example, being stung did not change the probability of experiencing a systemic reaction from future stings.

The available evidence for the key pathway parameters (likelihood of sting, resulting systemic reaction under different treatment arms and the likelihood of death following systemic reaction) was weak. As such, construction of probability distributions around these parameters was not feasible. Instead, a deterministic model was produced using the best available estimates with sensitivity and scenario analyses employed to test the impact of changing the parameters within plausible ranges.

A schematic of the first year of the model for PhVIT + AAI + HDA is shown in Figure 2 of the Assessment Report (see the "Availability of Companion Documents" field). The schematic for subsequent years was identical with the exception that the updosing phase of VIT was no longer present and after PhVIT had stopped the maintenance phase ended. The model then simplified into the number of stings per patient per year with resulting systemic reactions and the number of deaths from other causes. For the other treatment arms the model was essentially this simplified version of the intervention arm. The cohort was defined as 1000 patients who receive a full course of PhVIT; any extra costs due to non-adherence to treatment were considered implicitly if maintenance continued for 5 years rather than 3 years as described in the sensitivity analysis.

Model Validation

Internal Validation of Assessment Group Model

During model construction the algorithms within the model were checked using extreme value analysis for parameters to ensure that results generated were within acceptable bounds. To verify the accuracy of the model, key algorithms within the model were checked by an independent statistician. On completion, the model was assessed and validated by a team of external economists and statisticians.

External Validation of Assessment Group Model

The model was also cross checked by an external consultant. The economic model was checked for functionality, clarity, accuracy, consistency and validity. Validation of calculated parameters within the model was carried out where possible against observational studies. However given that this is *de novo* economic model, it was not possible for the external consultant to conduct validation regarding final results.

See Section 6 of the Assessment Report (see the "Availability of Companion Documents" field) for additional information.

Methods Used to Formulate the Recommendations

Expert Consensus

Description of Methods Used to Formulate the Recommendations

Considerations

Technology appraisal recommendations are based on a review of clinical and economic evidence.

Technology Appraisal Process

The National Institute for Health and Clinical Excellence (NICE) invites 'consultee' and 'commentator' organisations to take part in the appraisal process. Consultee organisations include national groups representing patients and carers, the bodies representing health professionals, and the manufacturers of the technology under review. Consultees are invited to submit evidence during the appraisal and to comment on the appraisal

documents.

Commentator organisations include manufacturers of the products with which the technology is being compared, the National Health Service (NHS) Quality Improvement Scotland and research groups working in the area. They can comment on the evidence and other documents but are not asked to submit evidence themselves.

NICE then commissions an independent academic centre to review published evidence on the technology and prepare an 'assessment report'. Consultees and commentators are invited to comment on the report. The assessment report and the comments on it are then drawn together in a document called the evaluation report.

An independent Appraisal Committee then considers the evaluation report. It holds a meeting where it hears direct, spoken evidence from nominated clinical experts, patients and carers. The Committee uses all the evidence to make its first recommendations, in a document called the 'appraisal consultation document' (ACD). NICE sends all the consultees and commentators a copy of this document and posts it on the NICE website. Further comments are invited from everyone taking part.

When the Committee meets again it considers any comments submitted on the ACD; then it prepares its final recommendations in a document called the 'final appraisal determination' (FAD). This is submitted to NICE for approval.

Consultees have a chance to appeal against the final recommendations in the FAD. If there are no appeals, the final recommendations become the basis of the guidance that NICE issues.

Who Is on the Appraisal Committee?

NICE technology appraisal recommendations are prepared by an independent committee. This includes health professionals working in the NHS and people who are familiar with the issues affecting patients and carers. Although the Appraisal Committee seeks the views of organisations representing health professionals, patients, carers, manufacturers and government, its advice is independent of any vested interests.

Rating Scheme for the Strength of the Recommendations

Not applicable

Cost Analysis

The Assessment Group developed a *de novo* economic model to evaluate the cost-effectiveness of Pharmalgen. The model is deterministic and constructed as a 1-year decision tree that is extrapolated to a 10-year time horizon, with changes to the size of the cohort at the end of each year because of sting-related deaths or death from other causes. The Assessment Group chose a 10-year horizon because it identified evidence to support the maintenance of effect over 10 years, and it did not identify any studies that considered a longer follow-up. The analyses were conducted from a United Kingdom (UK) National Health Service (NHS) and personal social services perspective, with costs and benefits discounted at a rate of 3.5%.

The Assessment Group used the clinical effectiveness evidence and the results from its own survey of 32 immunology clinicians in allergy centres in the UK, a published audit of UK allergy clinics, and published guidelines to inform the treatment pathway in its economic model. The economic model starts with a person receiving one of three therapies:

- Venom immunotherapy with Pharmalgen, an emergency kit containing an adrenaline auto-injector and high-dose antihistamine, plus advice on how to avoid being stung, or
- An emergency kit containing an adrenaline auto-injector and high-dose antihistamine, plus advice on how to avoid being stung, or
- Advice on how to avoid being stung

For people treated with Pharmalgen, there is an initial phase with stepwise increases in dosage and a subsequent 3-year maintenance phase.

The Assessment Group presented base-case results for a simulated 1000 patient cohort. The results showed that treatment with Pharmalgen plus an emergency kit plus avoidance advice provides an additional 0.11 quality-adjusted life years (QALYs) per 1000 patients compared with an emergency kit plus avoidance advice, with additional costs of £2,028,808, and an incremental cost-effectiveness ratio (ICER) of £18,065,527 per QALY gained. Compared with advice only, Pharmalgen plus an emergency kit plus avoidance advice provided an additional 0.29 QALYs per 1000 patients, with additional costs of £2,185,444, leading to an ICER of £7,627,835 per QALY gained.

Summary of Appraisal Committee's Key Conclusion

Availability and Nature of Evidence

The Committee considered that the economic model developed by the Assessment Group was appropriate to form the basis of its decision-making, despite uncertainties around the plausibility of some parameter estimates.

The Assessment Group was unable to identify any data on anxiety associated with venom allergy or changes in anxiety as a result of venom immunotherapy that could be used in the economic model.

Uncertainties Around and Plausibility of Assumptions and Inputs in the Economic Model

The Committee concluded that the assumption in the base-case analysis that Pharmalgen had no effect on health-related quality of life underestimated the cost-effectiveness of Pharmalgen compared with alternative treatments.

The Committee considered the scenario analyses that had assumed that people have five bee or wasp stings per year. It heard from clinical specialists that there are people who are stung at least five times per year and that these may include beekeepers plus their children and neighbours, roofers and gardeners.

The Committee concluded that it is appropriate to use a time horizon of longer than 10 years.

Incorporation of Health-Related Quality-of-Life Benefits and Utility Values

In a scenario analysis the Assessment Group assumed that a history of systemic reactions to bee or wasp stings reduced utility by 0.04 per person per year, and that treatment with Pharmalgen increased utility by 0.01 per person per year.

The Committee recognised the limitations of the evidence, but accepted on balance that this utility estimate was plausible and, given the testimony of the patient experts, may even underestimate the gains in utility associated with treatment with Pharmalgen.

Most Likely Cost-effectiveness Estimate

For people with a high risk of stings, treatment with Pharmalgen dominated the alternatives (that is, it was more effective and less costly). For people without a high risk of stings but reduced anxiety about re-stings after treatment with Pharmalgen, the most plausible ICER was less than £20,000 per QALY gained.

See Section 4 of the original guideline document for details of the economic analysis provided the Assessment Group and the Appraisal Committee considerations.

Method of Guideline Validation

External Peer Review

Description of Method of Guideline Validation

Consultee organisations from the following groups were invited to comment on the draft scope, Assessment Report and the Appraisal Consultation Document (ACD) and were provided with the opportunity to appeal against the Final Appraisal Determination.

- Manufacturer/sponsors
- Professional/specialist and patient/carer groups
- Commentator organisations (without the right of appeal)

In addition, individuals selected from clinical expert and patient advocate nominations from the professional/specialist and patient/carer groups were also invited to comment on the ACD.

Evidence Supporting the Recommendations

Type of Evidence Supporting the Recommendations

The type of evidence supporting the recommendations is not specifically stated for each recommendation.

The Appraisal Committee considered clinical and cost-effectiveness evidence presented by the Assessment Group. For clinical effectiveness, nine comparative studies of venom immunotherapy using Pharmalgen® products (PhVIT) (4 randomised controlled trials [RCTs] and 5 non-RCTs) were the main source of evidence. For cost-effectiveness, the Assessment Group's model was considered.

Benefits/Harms of Implementing the Guideline Recommendations

Potential Benefits

Appropriate use of Pharmalgen for the treatment of bee and wasp venom allergy and prevention of systemic allergic reactions

Potential Harms

Pharmalgen treatment may be associated with local or systemic immunological reactions, which can include anaphylaxis. The summary of product characteristics (SPC) recommends that people be observed for at least 60 minutes after an injection of Pharmalgen.

For full details of adverse effects and contraindications see the SPC.

Contraindications

Contraindications

The summary of product characteristics (SPC) as provided by the manufacturer states that Pharmalgen is contraindicated in people with malignancies, severe chronic or seasonal asthma, and immunological conditions. It is also contraindicated in people with diseases or conditions that prevent the treatment of possible anaphylactic reactions, such as chronic heart and lung disease, severe arterial hypertension and treatment with beta-blockers. Pharmalgen is also contraindicated in people taking tricyclic antidepressants, monoamine oxidase inhibitors, and angiotensin-converting enzyme inhibitors, and should not be initiated during pregnancy.

For full details of adverse effects and contraindications see the SPC.

Qualifying Statements

Qualifying Statements

- This guidance represents the view of the National Institute for Health and Clinical Excellence (NICE) and was arrived at after careful consideration of the evidence available. Health professionals are expected to take it fully into account when exercising their clinical judgement. However, the guidance does not override the individual responsibility of health professionals to make decisions appropriate to the circumstances of the individual patient, in consultation with the patient and/or guardian or carer.
- Implementation of this guidance is the responsibility of local commissioners and/or providers. Commissioners and providers are reminded that it is their responsibility to implement the guidance, in their local context, in light of their duties to avoid unlawful discrimination and to have regard to promoting equality of opportunity. Nothing in this guidance should be interpreted in a way which would be inconsistent with compliance with those duties.

Implementation of the Guideline

Description of Implementation Strategy

- The Secretary of State and the Welsh Assembly Minister for Health and Social Services have issued directions to the National Health Service (NHS) in England and Wales on implementing National Institute for Health and Clinical Excellence (NICE) technology appraisal guidance. When a NICE technology appraisal recommends use of a drug or treatment, or other technology, the NHS must usually provide funding and resources for it within 3 months of the guidance being published. If the Department of Health issues a variation to the 3-month funding direction, details will be available on the NICE website. When there is no NICE technology appraisal guidance on a drug, treatment or other technology, decisions on funding should be made locally.
- NICE has developed tools to help organisations put this guidance into practice (listed below).
    - A costing statement explaining the resource impact of this guidance

Implementation Tools

Clinical Algorithm

Foreign Language Translations

Patient Resources

Resources

For information about availability, see the *Availability of Companion Documents* and *Patient Resources* fields below.

Institute of Medicine (IOM) National Healthcare Quality Report Categories

IOM Care Need

Getting Better

Staying Healthy

IOM Domain

Effectiveness

Patient-centeredness

Safety

Identifying Information and Availability

Bibliographic Source(s)

National Institute for Health and Clinical Excellence (NICE). Pharmalgen for the treatment of bee and wasp venom allergy. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Feb. 34 p. (Technology appraisal guidance; no. 246).

Adaptation

Not applicable: The guideline was not adapted from another source.

Date Released

2012 Feb

Guideline Developer(s)

National Institute for Health and Care Excellence (NICE) - National Government Agency [Non-U.S.]

Source(s) of Funding

National Institute for Health and Clinical Excellence (NICE)

Guideline Committee

Appraisal Committee

Composition of Group That Authored the Guideline

Committee Members: Dr Amanda Adler (*Chair*), Consultant Physician, Addenbrooke's Hospital, Cambridge; Dr Ray Armstrong, Consultant Rheumatologist, Southampton General Hospital, Dr Jeff Aronson, Reader in Clinical Pharmacology, Department of Primary Health Care, University of Oxford; Dr Peter Barry, Consultant in Paediatric Intensive Care, Leicester Royal Infirmary; Dr Michael Boscoe, Consultant Cardiothoracic Anaesthetist, Royal Brompton and Harefield NHS Foundation Trust; Professor John Cairns, Professor of Health Economics, Public Health and Policy, London School of Hygiene and Tropical Medicine; Dr Mark Chakravarty, External Relations Director – Pharmaceuticals and Personal Health, Oral Care Europe; Mrs Eleanor Grey, Lay member; Dr Neil Iosson, General Practitioner; Mr Terence Lewis, Lay member; Professor Ruairidh Milne, Director of Strategy and Development and Director for Public Health Research at the NIHR Evaluation, Trials and Studies Coordinating Centre, University of Southampton; Professor Stephen Palmer, Professor of Health Economics, Centre for Health Economics, University of York; Dr Sanjeev Patel, Consultant Physician and Senior Lecturer in Rheumatology, St Helier University Hospital, Carshalton; Mr Alun Roebuck, Consultant Nurse in Critical and Acute Care, United Lincolnshire NHS Trust; Dr Florian Alexander Ruths, Consultant Psychiatrist and Cognitive Therapist, Maudsley Hospital, London; Mr Navin Sewak, Primary Care Pharmacist, NHS Hammersmith and Fulham; Mr Roderick Smith, Finance Director, West Kent Primary Care Trust; Mr Cliff Snelling, Lay member; Professor Ken Stein (*Vice Chair*), Professor of Public Health, Peninsula Technology Assessment Group (PenTAG), University of Exeter; Professor Andrew Stevens, Professor of Public Health, Department of Public Health and Epidemiology, University of Birmingham; Mr Tom Wilson, Director of Contracting and Performance, NHS Tameside and Glossop

Financial Disclosures/Conflicts of Interest

Committee members are asked to declare any interests in the technology to be appraised. If it is considered there is a conflict of interest, the member is excluded from participating further in that appraisal.

Guideline Status

This is the current release of the guideline.

Guideline Availability

Electronic copies: Available from the National Institute for Health and Clinical Excellence (NICE) Web site .

Availability of Companion Documents

The following are available:

- Costing statement: Pharmalgen for the treatment of bee and wasp venom allergy. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Feb. 3 p. (Technology appraisal 246). Electronic copies: Available in Portable Document Format (PDF) from the National Institute for Health and Clinical Excellence (NICE) Web site.
- NICE Pathways. Anaphylaxis. Electronic copies: Available from the NICE Web site.
- The clinical and cost effectiveness of Pharmalgen® for the treatment of bee and wasp venom allergy. Assessment report. Liverpool Reviews and Implementation Group (LRiG), University of Liverpool; 2011 Jul 1; 113 p. (Technology appraisal 246). Electronic copies: Available in PDF from the NICE Web site.

Patient Resources

The following is available:

- Pharmalgen for the treatment of bee and wasp venom allergy. Understanding NICE guidance. Information for people who use NHS services. London (UK): National Institute for Health and Clinical Excellence (NICE); 2012 Feb. 6 p. (Technology appraisal 246). Electronic copies: Available in Portable Document Format (PDF) from the National Institute for Health and Clinical Excellence (NICE) Web site. Also available in Welsh from the NICE Web site.

Please note: This patient information is intended to provide health professionals with information to share with their patients to help them better understand their health and their diagnosed disorders. By providing access to this patient information, it is not the intention of NGC to provide specific medical advice for particular patients. Rather we urge patients and their representatives to review this material and then to consult with a licensed health professional for evaluation of treatment options suitable for them as well as for diagnosis and answers to their personal medical questions. This patient information has been derived and prepared from a guideline for health care professionals included on NGC by the authors or publishers of that original guideline. The patient information is not reviewed by NGC to establish whether or not it accurately reflects the original guideline's content.

NGC Status

This NGC summary was completed by ECRI Institute on July 3, 2012.

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